

1 **Amendment to the Claims**

2 **In the Claims:**

3 Please amend Claims 1, 2, 14, 21, 23, 25, 26, 52-54, 57, and 58, as follows:

4 1. (Currently Amended) A medical simulator for training ultrasound operators to perform
5 craniostosis screenings using medical ultrasound, comprising a substantially life size model of a
6 human head, said model being at least in part fabricated from a first material, said model including ~~at~~
7 ~~least one simulated patent skull suture being at least in part fabricated from~~ means for preventing
8 tactile detection of a simulated patent skull suture in the model, while enabling the simulated patent
9 skull suture to be visually detected based upon an appearance of the simulated patent skull suture in
10 an ultrasound image of said model, said means comprising a second material, ~~said second material~~
11 comprising at least one of a solid and a semi-solid, that is selected to have an echogenicity of said
12 second material being substantially different than an echogenicity of said first material, such that each
13 simulated patent skull suture can be readily distinguished in an ultrasound image of said model.

14 2. (Currently Amended) The medical simulator of Claim 1, wherein each simulated patent
15 skull suture comprises an opening ~~formed in~~ within said first material, ~~such that the second material~~
16 wherein the means for enabling comprises a deposit of the second material within the opening in a
17 sufficient quantity to at least partially fills fill the opening.

18 3. (Canceled)

19 4. (Previously Presented) The medical simulator of Claim 1, wherein the second material is
20 hypoechoic relative to the first material.

21 5. (Previously Presented) The medical simulator of Claim 1, wherein the echogenicity of the
22 second material is lower than the echogenicity of the first material, such that in an ultrasound image
23 of the model, portions of the model corresponding to the first material appear relatively bright and
24 portions of the model corresponding to the second material appear relatively dark.

25 6. (Previously Presented) The medical simulator of Claim 1, wherein the model includes a
26 scalp portion in which each simulated skull suture is disposed, such that the scalp portion of the
27 model is covered with a layer of the second material, the second material extending beyond the
28 opening in the first material and covering at least a portion of the first material, to prevent the
29 simulated patent skull suture from being identified tactilely.

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1 7. (Previously Presented) The medical simulator of Claim 1, wherein the second material
2 comprises a mixture of a starch and a glue.

3 8. (Original) The medical simulator of Claim 7, wherein the glue is a casein-based glue.

4 9. (Original) The medical simulator of Claim 7, wherein the glue is a synthetic resin-based
5 glue.

6 10. (Original) The medical simulator of Claim 2, wherein at least one simulated patent skull
7 suture corresponds to at least one of a simulated patent coronal skull suture and a simulated patent
8 lambdoid skull suture, and wherein each opening corresponding to a simulated patent coronal skull
9 suture is beveled, and each opening corresponding to a simulated patent lambdoid skull suture is
10 beveled.

11 11. (Original) The medical simulator of Claim 2, wherein at least one opening corresponding
12 to a simulated patent skull suture corresponds to at least one of a simulated patent sagittal skull suture
13 and a simulated patent metopic skull suture, so that opposed walls of each opening corresponding to a
14 simulated patent sagittal skull suture exhibit an end-to-end configuration, and opposed walls of each
15 opening corresponding to a simulated patent metopic skull suture exhibit an end-to-end configuration.

16 12. (Previously Presented) The medical simulator of Claim 1, further comprising at least one
17 simulated fused skull suture.

18 13. (Original) The medical simulator of Claim 12, wherein each simulated fused skull suture
19 comprises said first material.

20 14. (Currently Amended) The medical simulator of Claim 12, wherein each simulated fused
21 skull suture comprises an opening ~~formed in~~ within said first material, each opening corresponding to a
22 simulated fused skull structure ~~being filled with~~ in which a third material is disposed, an echogenicity of
23 the third material being substantially distinguishable from the echogenicity of the second material, so that
24 each opening corresponding to a simulated fused skull suture can be readily distinguished from an
25 opening corresponding to a simulated patent skull suture in an ultrasound image of said model.

26 15. (Original) The medical simulator of Claim 14, wherein the echogenicity of the third
27 material is substantially similar to the echogenicity of the first material, such that in an ultrasound
28 image of the model, portions of the model comprising the first material are not readily distinguishable
29 from portions of the model comprising the third material.

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1 16. (Original) The medical simulator of Claim 14, wherein the third material comprises a
2 synthetic elastomer.

3 17. (Original) The medical simulator of Claim 16, wherein the synthetic elastomer comprises
4 dimethyl siloxane, hydroxy-terminated polymers, and silica.

5 18. (Original) The medical simulator of Claim 12, further comprising an opaque layer
6 configured to cover each simulated patent skull suture and each simulated fused skull suture, so that a
7 trainee cannot readily visually determine whether a specific skull suture is patent or fused by visually
8 inspecting the model.

9 19. (Original) The medical simulator of Claim 1, further comprising an opaque layer
10 configured to cover a scalp portion of the model, so that a trainee cannot readily visually locate each
11 simulated patent skull suture by visually inspecting the model.

12 20. (Original) The medical simulator of Claim 1, wherein a doll's head is utilized for the
13 substantially life size model of a human head.

14 21. (Currently Amended) A medical simulator adapted to be used to train ultrasound
15 operators to perform craniosynostosis screenings using medical ultrasound, comprising a
16 substantially life size model of a human head, said model including ~~at least one opening~~
17 ~~corresponding~~ a plurality of openings, a solid or semi-solid hypoechoic material being included in
18 each opening so that the opening corresponds to a simulated patent skull suture, ~~each such opening~~
19 ~~being filled with a solid or semi-solid hypoechoic material to enhance a difference in~~ wherein the
20 hypoechoic material causes an echogenicity of the simulated skull suture ~~relative to~~ differ from that
21 of portions of the model not corresponding to the simulated patent skull suture, the difference
22 enabling each simulated patent skull suture to be identified in an ultrasonic image; and, means for
23 selectively modifying the model between training sessions by enabling a filler material to be added
24 within at least one selected opening, the filler material having an echogenicity that is generally
25 similar to that of the portions of the model not corresponding to the simulated skull suture, so that
26 each opening in which the filler material is added simulates a fused skull suture in an ultrasonic
27 image, the model being modified between training sessions by removing the filler material from the
28 at least one opening and adding the filler material within at least one other different opening.

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1 22. (Previously Presented) The medical simulator of Claim 21, wherein when the medical
2 simulator is imaged using ultrasound, the hypoechoic material produces a relatively dark image,
3 whereas adjacent portions of the model produce a relatively bright image, such that each simulated
4 patent skull suture appears in the ultrasound image as a relatively dark area surrounded by relatively
5 brighter areas.

6 23. (Currently Amended) The medical simulator of Claim 21, wherein said model is
7 fabricated from a first material, such that the solid or semi-solid hypoechoic material ~~filling~~ included
8 in each opening corresponding to a simulated patent skull suture represents a second material, an
9 echogenicity of the second material being substantially different than the echogenicity of the first
10 material, so that each opening corresponding to a simulated patent skull suture can be readily
11 distinguished from the first material in an ultrasound image of said model.

12 24. (Previously Presented) The medical simulator of Claim 23, wherein the echogenicity of
13 the second material is lower than the echogenicity of the first material, such that in an ultrasound
14 image of the model, portions of the model comprising the first material will appear relatively bright,
15 while portions of the model comprising the second material will appear relatively dark.

16 25. (Currently Amended) The medical simulator of Claim 23, ~~further comprising wherein~~
17 the filler material added within at least one opening corresponding to a simulated fused skull suture;
18 ~~each opening corresponding to a simulated fused skull suture being filled with~~ comprises a third
19 material, an echogenicity of the third material being substantially different than the echogenicity of
20 the second material, so that each opening corresponding to a simulated fused skull suture can be
21 readily distinguished from an opening corresponding to a simulated patent skull suture in an
22 ultrasound image of said model.

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1 26. (Currently Amended) The medical simulator of Claim 21, wherein:

2 (a) each opening corresponding to a simulated patent skull suture intended to
3 represent a patent coronal skull suture is beveled;

4 (b) each opening corresponding to a simulated patent skull suture intended to
5 represent a patent lambdoid skull suture is beveled;

6 (c) each opening corresponding to a simulated patent skull suture intended to
7 represent a patent sagittal skull suture is ~~formed~~ disposed such that opposed walls of the opening
8 exhibit an end-to-end configuration; and

9 (d) each opening corresponding to a simulated patent skull suture intended to
10 represent a patent metopic skull suture is ~~formed~~ disposed such that opposed walls of the opening
11 exhibit an end-to-end configuration.

12 27. (Previously Presented) An ultrasound trainer configured to train ultrasound operators to
13 perform craniosynostosis screenings using medical ultrasound; comprising a substantially life size
14 model of a human head, said model including at least one simulated patent skull suture and at least
15 one simulated fused skull suture, an echogenicity of each simulated patent skull suture enabling the
16 simulated patent skull suture to be readily distinguishable from each simulated fused skull suture in
17 an ultrasound image of said model, such that each simulated patent skull suture will appear dark in
18 such an ultrasound image, and each simulated fused skull suture will appear bright in such an
19 ultrasound image.

20 Claims 28-51. (Canceled)

21 52. (Currently Amended) A medical simulator for training ultrasound operators to perform
22 craniosynostosis screenings using medical ultrasound, comprising a substantially life-size model of a
23 human head, said model including two eyes, a mouth, two ears, and at least one simulated patent
24 skull suture that can be selectively modified to appear as a simulated fused skull suture, an a
25 difference in echogenicity of each simulated patent skull suture and each simulated fused skull suture
26 enabling the each simulated patent skull suture to be readily distinguishable non suture portions of the
27 model and from each simulated fused suture in an ultrasound image of said model.

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1 53. (Currently Amended) A medical simulator for training ultrasound operators to perform
2 cranosynostosis screenings using medical ultrasound, comprising a substantially life size model of a
3 human head, said model including ~~at least one~~ a plurality of simulated patent skull sutures, an
4 echogenicity of each simulated patent skull suture enabling the simulated patent skull suture to be
5 readily distinguishable in an ultrasound image of said model, such that each simulated patent skull
6 suture will appear dark in such an ultrasound image, whereas adjacent portions of said model will
7 appear bright in such an ultrasound image; and, further comprising means for reversibly modifying
8 one or more selected simulated patent skull sutures to create one or more simulated fused skull
9 sutures that can readily be detected in an ultrasound image, wherein each simulated fused skull suture
10 will appear bright in the ultrasound image, like the portions of the model that are adjacent to the
11 simulated patent skull sutures.

12 54. (Currently Amended) A medical simulator for training ultrasound operators to perform
13 cranosynostosis screenings using medical ultrasound, comprising a substantially life size model of a
14 human head, said model being at least in part fabricated from a first material, said model including:

15 (a) at least one simulated patent skull suture being at least in part fabricated from a
16 second material, said second material comprising at least one of a solid and a semi-solid, an
17 echogenicity of said second material being substantially different than an echogenicity of said first
18 material, such that each simulated patent skull suture can be readily distinguished in an ultrasound
19 image of said model; and

20 (b) at least one simulated fused skull suture, wherein each simulated fused skull
21 suture comprises an opening ~~formed in~~ within said first material, a third material being disposed
22 within each opening corresponding to a simulated fused skull structure ~~being filled with a third~~
23 ~~material~~, an echogenicity of the third material being substantially distinguishable from the
24 echogenicity of the second material, so that each ~~opening corresponding to a~~ simulated fused skull
25 suture can be readily distinguished from ~~an opening corresponding to a~~ each simulated patent skull
26 suture in an ultrasound image of said model.

27 55. (Previously Presented) The medical simulator of Claim 54, wherein the echogenicity of
28 the third material is substantially similar to the echogenicity of the first material, such that in an
29 ultrasound image of the model, portions of the model comprising the first material are not readily
30 distinguishable from portions of the model comprising the third material.

1 56. (Previously Presented) The medical simulator of Claim 54, wherein the third material
2 comprises a synthetic elastomer.

3 57. (Currently Amended) A medical simulator adapted to be used to train ultrasound
4 operators to perform craniosynostosis screenings using medical ultrasound, comprising:

5 (a) a substantially life size model of a human head, said model including at least
6 one opening corresponding to a simulated patent skull suture, a solid or semi-solid hypoechoic
7 material being disposed within each such opening ~~being filled with a solid or semi-solid hypoechoic~~
8 ~~material~~ to enhance a difference in an echogenicity of the simulated skull suture relative to that of
9 portions of the model not corresponding to the simulated patent skull suture, the difference enabling
10 each simulated patent skull suture to be identified in an ultrasonic image, said model being fabricated
11 from a first material, such that the solid or semi-solid hypoechoic material ~~filling~~ disposed within
12 each opening corresponding to a simulated patent skull suture represents a second material, an
13 echogenicity of the second material being substantially different than the echogenicity of the first
14 material, so that each opening corresponding to a simulated patent skull suture can be readily
15 distinguished from the first material in an ultrasound image of said model; and

16 (b) at least one opening corresponding to a simulated fused skull suture, a third
17 material being disposed within each opening corresponding to a simulated fused skull suture ~~being~~
18 ~~filled with a third material~~, an echogenicity of the third material being substantially different than the
19 echogenicity of the second material, so that each opening corresponding to a simulated fused skull
20 suture can be readily distinguished from an opening corresponding to a simulated patent skull suture
21 in an ultrasound image of said model.

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1 58. (Currently Amended) A medical simulator kit adapted to be used to train ultrasound
2 operators to perform craniosynostosis screenings using medical ultrasound, comprising a
3 substantially life size model of an infant head, said model including ~~at least one~~ a plurality of
4 openings each corresponding to a simulated patent skull suture, ~~each such opening being filled with a~~
5 ~~solid or semi-solid~~ a hypoechoic material being disposed within the opening to enhance a difference
6 in an echogenicity of the simulated skull suture relative to that of portions of the model not
7 corresponding to the simulated patent skull suture, the difference enabling each simulated patent skull
8 suture to be identified in an ultrasonic image; and, instructions for selectively adding a filler material
9 having an echogenicity about equal to that of the portions of the model not corresponding to a
10 simulated patent skull suture, to at least one opening, in order to create a simulated fused skull suture.